Table 6-1. Ranking of Remedial Technologies by Green Core Elements

Green Remediation Core Elements	Sub-elements	Remedial Technologies													
				In-Place Technologies						Transport and Disposal of Dredge Material					
		Monitored Natural Recovery (MNR)		Enhanced Monitored Natural Recovery (EMNR)		In-situ Treatment		Engineered Cap		Dredging		Upland Disposal		Confined Disposal Facility/Confined Aquatic Disposal		Removal and Installation of Piling and Structures	
Total Energy and Renewable Energy Use	Energy Use	●	/•	•	/•	•	/•	•	/●	•	/●	•	/●	•	/•	•	/•
	Renewable Energy Use	•	/●	•	/●	•	/•	•	/●	•	/•	•	/●	•	/•	•	/●
Air Pollutants and GHG Emissions	Air Pollutants and GHG Emissions	●	/•	•	/•	•	/•	•	/●	•	/●	•	/●	•	/•	•	/●
Water Use and Impacts to Water Resources	Water Use	●	/•	●	/•	●	/•	•	/●	•	/•	•	/●	•	/●	•	/•
	Protection of Water Resources	●	/•	•	/•	•	/•	•	/•	•	/•	●	/•	•	/•	•	/•
Waste	Materials Management and Waste Reduction	●	/•	●	/●	●	/•	●	/●	•	/•	•	/•	•	/•	•	/●
Land and Ecosystems	Land Management/ Restoration	•	/•	•	/●	•	/•	•	/●	•	/•	•	/•	•	/●	•	/●
	Ecosystem Protection	●	/•	•	/●	•	/•	•	/•	•	/•	•	/●	•	/•	•	/•

Note:

[1] The rationale for rankings focuses on implementation of the remedy. Green remediation opportunities during the Site assessment and planning and design stages are similar for all alternatives. In addition to specifc smaller scale administrative and Site investigation best management practices (BMPs), steps to ensure green remediation opportunities are maximized include collecting data to evaluate green remediation opportunities and developing plans to integrate renewable energy, water use reduction and protection, land protection and waste reduction into the cleanup action.

LEGEND		Score
Remedial Technology Ranking (Highly Green = Low Environmental Footprint)		
Highly Green	●	1
Moderately Green	•	0
Minimally Green	/•	-1
Green Remediation Opportunity Ranking (Large Green Oppportunity = Potentially large environmental footprint reduction)		
Small Green Opportunity	/•	-1
Medium Green Opportunity	/●	0
Large Green Opportunity	/●	1

Table 7-1. Areas and Volumes of Each Alternative

Alternative	Remedial Technologies									
	Percent of Total Site Area						Disposal Percent by Volume		Disposal Percent Normalized by Greatest Disposal Volume (Alt F-r)	
	Dredge	Engineered Cap & CAD/CDF	In Situ Treatment	EMNR	MNR	Total	% to CAD/CDF	% to Upland	% to CAD/CDF	% to Upland
B-i	1.1%	0.3%	0.9%	3.5%	94.3%	100.0%	0.0%	100.0%	0.0%	4.7%
B-r	1.9%	1.9%	0.0%	1.9%	94.3%	100.0%	35.8%	64.2%	4.5%	8.1%
C-i	1.6%	2.1%	1.3%	1.8%	93.1%	100.0%	61.0%	39.0%	4.5%	2.9%
C-r	2.9%	0.6%	0.0%	3.4%	93.1%	100.0%	82.1%	17.9%	15.0%	3.3%
D-i	2.0%	2.2%	1.6%	1.7%	92.5%	100.0%	49.6%	50.4%	4.5%	4.6%
D-r	3.6%	0.7%	0.0%	3.1%	92.5%	100.0%	70.0%	30.0%	15.0%	6.4%
E-i	4.2%	3.3%	2.7%	0.7%	89.1%	100.0%	100.0%	0.0%	22.0%	0.0%
E-r	6.7%	3.5%	0.0%	0.7%	89.1%	100.0%	92.2%	7.8%	38.7%	3.3%
F-i	8.1%	5.0%	5.4%	0.2%	81.3%	100.0%	75.9%	24.1%	38.7%	12.3%
F-r	14.0%	4.5%	0.0%	0.2%	81.3%	100.0%	38.7%	61.3%	38.7%	61.3%

Table 7-2. Environmental Footprint Ranking by Alternative [1]

Alternative	Remedial Technologies: Percent of Total Site Area: Dredge	Engineered Cap & CAD/CDF	In Situ Treatment	EMNR	MNR	Area Score	Disposal Percent by Volume: % to CAD/CDF	% to Upland	Volume Score	Overall Total	Lowest Footprint Ranking
Footprint Score (higher the score, lower the footprint)	**-7**	**-5**	**-2**	**0**	**4**		**-5**	**-7**		**Highest total score = Lowest footprint**	**1 = lowest footprint**
B-i	-0.07	-0.02	-0.02	0.00	3.77	3.66	0.00	-0.33	-0.33	3.33	1
B-r	-0.14	-0.09	0.00	0.00	3.77	3.54	-0.23	-0.57	-0.80	2.74	4
C-i	-0.11	-0.11	-0.03	0.00	3.72	3.48	-0.23	-0.20	-0.43	3.05	2
C-r	-0.20	-0.03	0.00	0.00	3.72	3.49	-0.75	-0.23	-0.98	2.51	5
D-i	-0.14	-0.11	-0.03	0.00	3.70	3.42	-0.23	-0.32	-0.55	2.87	3
D-r	-0.25	-0.04	0.00	0.00	3.70	3.41	-0.75	-0.45	-1.20	2.21	6
E-i	-0.29	-0.17	-0.05	0.00	3.56	3.05	-1.10	0.00	-1.10	1.95	7
E-r	-0.47	-0.17	0.00	0.00	3.56	2.92	-1.94	-0.23	-2.17	0.76	8
F-i	-0.57	-0.25	-0.11	0.00	3.25	2.33	-1.94	-0.86	-2.79	-0.47	9
F-r	-0.98	-0.23	0.00	0.00	3.25	2.05	-1.94	-4.29	-6.23	-4.18	10

[1] Qualitative assessment of environmental footprint based on ranking of remedial technologies (Table 6-1) multiplied by areas and volumes of these technologies (Table 7-1)

Table 7-3. Green Remediation Opportunity Ranking by Alternative [2]

Alternative	Remedial Technologies									Overall Total	Highest Opportunity Ranking
	Percent of Total Site Area						Disposal Percent by Volume				
	Dredge	Engineered Cap & CAD/CDF	In Situ Treatment	EMNR	MNR		% to CAD/CDF	% to Upland			
Green Remediation Opportunity Score (higher the score, higher the opportunity)	0	1	-8	-4	-6	Area Score	-5	0	Volume Score	Highest total score = Highest opportunity	1 = Highest Opportunity
B-i	0.00	0.00	-0.07	-0.14	-5.66	-5.86	-5.00	-4.76	-9.76	-15.63	10
B-r	0.00	0.02	0.00	-0.08	-5.66	-5.71	-4.77	-4.59	-9.37	-15.08	7
C-i	0.00	0.02	-0.11	-0.07	-5.59	-5.75	-4.77	-4.86	-9.63	-15.37	9
C-r	0.00	0.01	0.00	-0.13	-5.59	-5.72	-4.25	-4.84	-9.09	-14.80	6
D-i	0.00	0.02	-0.13	-0.07	-5.55	-5.72	-4.77	-4.77	-9.54	-15.27	8
D-r	0.00	0.01	0.00	-0.12	-5.55	-5.67	-4.25	-4.68	-8.93	-14.60	5
E-i	0.00	0.03	-0.21	-0.03	-5.35	-5.55	-3.90	-5.00	-8.90	-14.45	4
E-r	0.00	0.03	0.00	-0.03	-5.35	-5.34	-3.06	-4.84	-7.90	-13.24	3
F-i	0.00	0.05	-0.43	-0.01	-4.88	-5.27	-3.06	-4.39	-7.45	-12.72	2
F-r	0.00	0.05	0.00	-0.01	-4.88	-4.84	-3.06	-1.94	-5.00	-9.84	1

[2] Qualitative assessment of green remediation opportunity ranking based on ranking of remedial technologies (Table 6-1) multiplied by areas and volumes of these technologies (Table 7-1)

Table 7-4. Combined Environmental Footprint and Green Remediation Opportunities Ranking by Alternative

Alternative	Remedial Technologies									Overall Total: assumes 100% of green opportunities are applied	Combined Ranking	Overall Total: assumes 50% of green opportunities are applied	Combined Ranking	Overall Total: assumes 25% of green opportunities are applied	Combined Ranking
	Percent of Total Site Area						Disposal Percent normalized by greatest disposal volume (Alt F-r)								
Green Remediation Opportunity Score	Dredge	Engineered Cap & CAD/CDF	In Situ Treatment	EMNR	MNR	Total	% to CAD/CDF	% to Upland	Total (Compared to highest volume)	Highest total score = Most green (lowest footprint + Highest green opportunity)	1 = Highest combined score / Smallest footprint	Highest total score = Most green (lowest footprint + Highest green opportunity)	1 = Highest combined score / Smallest footprint	Highest total score = Most green (lowest footprint + Highest green opportunity)	1 = Highest combined score / Smallest footprint
B-i	1.1%	0.3%	0.9%	3.5%	94.3%	100.0%	0.0%	4.7%	4.7%	-12.29	2	-4.48	1	-0.58	1
B-r	1.9%	1.9%	0.0%	1.9%	94.3%	100.0%	4.5%	8.1%	12.7%	-12.34	4	-4.80	4	-1.03	4
C-i	1.6%	2.1%	1.3%	1.8%	93.1%	100.0%	4.5%	2.9%	7.4%	-12.32	3	-4.64	2	-0.79	2
C-r	2.9%	0.6%	0.0%	3.4%	93.1%	100.0%	15.0%	3.3%	18.2%	-12.29	1	-4.89	5	-1.19	5
D-i	2.0%	2.2%	1.6%	1.7%	92.5%	100.0%	4.5%	4.6%	9.1%	-12.40	6	-4.76	3	-0.95	3
D-r	3.6%	0.7%	0.0%	3.1%	92.5%	100.0%	15.0%	6.4%	21.4%	-12.39	5	-5.09	6	-1.44	6
E-i	4.2%	3.3%	2.7%	0.7%	89.1%	100.0%	22.0%	0.0%	22.0%	-12.50	8	-5.28	7	-1.66	7
E-r	6.7%	3.5%	0.0%	0.7%	89.1%	100.0%	38.7%	3.3%	42.0%	-12.48	7	-5.86	8	-2.55	8
F-i	8.1%	5.0%	5.4%	0.2%	81.3%	100.0%	38.7%	12.3%	51.0%	-13.19	9	-6.83	9	-3.65	9
F-r	14.0%	4.5%	0.0%	0.2%	81.3%	100.0%	38.7%	61.3%	100.0%	-14.02	10	-9.10	10	-6.64	10